

What is claimed is:

1. A broadcasting system comprising:

a) a broadcasting device for transmitting broadcasting waves;

5 b) a receiver for receiving said broadcasting waves; and

c) a peripheral device provided outside said receiver,

said broadcasting device comprising

a-1) a transmission controller for transmitting a combination of broadcast data

about a broadcast program and an external control signal for controlling said peripheral

10 device in accordance with contents of said broadcast program in the form of said
broadcasting waves to said receiver,

said receiver comprising

b-1) a receiver controller for receiving said broadcasting waves from said
broadcasting device to output said broadcast data to a reproducer and to transmit a

15 command signal dependent on said external control signal to said peripheral device,

said peripheral device being controlled by said command signal.

2. The system according to claim 1, wherein

said peripheral device includes at least one of an illumination device, an air

20 conditioner, a sound generator, and a remote controller for said receiver.

3. The system according to claim 2, wherein

said remote controller is controlled by said command signal, and

said remote controller comprises:

25 a control panel having a display device; and

a control element for displaying an item dependent on said external control signal on said display device and for transmitting to said receiver an information signal responsive to an input operation to said control panel in accordance with said item.

5 4. The system according to claim 3, wherein

said command signal includes:

an operation object signal for indicating a display item of an operation object on said control panel; and

10 a response designation signal for designating a response of said remote controller to said input operation to said control panel in accordance with said display item.

5. The system according to claim 4, wherein

said display item includes an image of a control button, and

15 said input operation to said control panel includes a manual operation of said control button.

6. The system according to claim 3, wherein

said transmission controller comprises:

20 a multiplex element for multiplexing said broadcast data and said external control signal into said broadcasting waves for respective channels; and

a multiplex signal transmission element for transmitting said broadcasting waves for the respective channels to said receiver.

25 7. The system according to claim 3,

wherein said transmission controller comprises:

a clock element for clocking a broadcasting time of said broadcast program or elapsed time since start of broadcasting as a timing signal; and

a switching signal transmission element for transmitting a switching signal for

5 said display item on said control panel to said receiver, based on said timing signal,

wherein said receiver controller comprises

a switching signal extraction element for extracting said switching signal from said broadcasting waves for a selected channel to transmit said switching signal to said remote controller, and

10 wherein said control element of said peripheral device comprises

a switching element for switching a first display item on said control panel to a second display item specified by said external control signal in response to said switching signal.

15 8. The system according to claim 7, wherein

said switching signal is transmitted at regular intervals within a predetermined time period.

9. The system according to claim 2, wherein

20 said peripheral device includes a toy device relating to a character, and

said external control signal includes information for operating said toy device in response to an operation of said character appearing in said broadcast program.

10. The system according to claim 2,

25 wherein said peripheral device includes a toy device relating to a character,

wherein said toy device comprises a voice storage, and

wherein said external control signal includes:

a voice signal representative of a voice emitted by said character appearing in said broadcast program; and

5 a storage command signal for instructing said toy device to store said voice signal in said voice storage.

11. A system in which a broadcast program transmitted from a broadcasting device is received by a receiver associated with a peripheral device, said system
10 comprising:

a) a broadcasting device for transmitting broadcasting waves to a receiver, said broadcasting waves including broadcast data about said broadcast program and an external control signal for controlling said peripheral device in accordance with contents of said broadcast program; and

15 b) a receiver for receiving said broadcasting waves from said broadcasting device to output said broadcast data to a reproducer and to transmit a command signal dependent on said external control signal to said peripheral device.

12. The system according to claim 11, wherein
20 said peripheral device includes at least one of an illumination device, an air conditioner, a sound generator, a toy device relating to a character, and a remote controller for said receiver.

13. The system according to claim 12, wherein
25 said peripheral device includes said remote controller for said receiver;

said remote controller comprises a control panel having a display device;
said external control signal includes a control signal for said control panel; and
said receiver comprises:

b-1) a receiver element for receiving a plurality of broadcasting waves
5 transmitted from said broadcasting device;

b-2) a memory element for storing a plurality of external control signals
included respectively in said plurality of broadcasting waves;

b-3) a channel-selection element for extracting said broadcast data included in a
broadcasting wave for a channel designated by said remote controller from said plurality
10 of broadcasting waves;

b-4) an extraction element for extracting an external control signal included in
the broadcasting wave for the channel selected by said channel-selection element from
said plurality of external control signals stored in said memory element; and

b-5) a transmission element for transmitting said external control signal
15 extracted by said extraction element to said remote controller,

wherein a display item on said control panel is changed in accordance with said
external control signal.

14. The system according to claim 12, wherein
20 said peripheral device includes said remote controller for said receiver;
said remote controller comprises a control panel having a display device;
said external control signal includes a control signal for said control panel; and
said control panel comprises a touch panel disposed on said display device for
accepting a manual input.

15. The system according to claim 12, wherein
said peripheral device includes said remote controller for said receiver;
said remote controller comprises a control panel having a display device;
said external control signal includes a control signal for said control panel;
5 wherein said remote controller further comprises
an information signal transmission element for transmitting input-information
inputted from said control panel as an information signal to said receiver,
wherein said receiver comprises
a transfer element for receiving said information signal transmitted from said
10 remote controller to transmit said received information signal to said broadcasting device,
and
wherein said broadcasting device comprises
an information signal receiver element for receiving said information signal
transmitted from said receiver.

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16. The system according to claim 15, wherein
said input-information includes at least one of:
voice information inputted from a voice input device attached to said control
panel; and
20 video information inputted from a video input device attached to said control
panel.

17. The system according to claim 12, wherein
said peripheral device includes said toy device, and
25 said external control signal includes information for operating said toy device in

response to an operation of said character appearing in said broadcast program.

18. The system according to claim 12,

wherein said peripheral device includes said toy device,

5 wherein said toy device comprises a voice storage, and

wherein said external control signal includes:

a voice signal representative of a voice emitted by said character appearing in
said broadcast program; and

10 a storage command signal for instructing said toy device to store said voice
signal in said voice storage.

19. A broadcasting device for transmitting broadcasting waves to a receiver
provided with a peripheral device, said broadcasting device comprising:

an element for receiving or generating a combined signal including broadcast
15 data about a broadcast program and an external control signal for controlling said
peripheral device in accordance with contents of said broadcast program; and

a transmitter for transmitting said combined signal as said broadcasting waves.

20. The broadcasting device according to claim 19, wherein

20 said peripheral device includes at least one of an illumination device, an air
conditioner, a sound generator, a toy device relating to a character, and a remote
controller for said receiver.

21. The broadcasting device according to claim 20, wherein

25 said peripheral device includes said remote controller, and

said remote controller comprises:

a control panel having a display device; and

an element for displaying an item dependent on said external control signal and
for transmitting to said receiver an information signal responsive to an input operation to

5 said control panel in accordance with said item.

22. A receiver for receiving broadcasting waves transmitted from a
broadcasting device, said broadcasting waves including broadcast data about a broadcast
program and an external control signal for controlling a peripheral device in accordance

10 with contents of said broadcast program, said receiver comprising:

a receiver element for receiving said broadcasting waves;

an output element for outputting information obtained based on said broadcast
data to a reproducer; and

a transmission element for transmitting a command signal dependent on said
15 external control signal to said peripheral device.

23. The receiver according to claim 22, wherein

said peripheral device includes a remote controller for said receiver.

20 24. The receiver according to claim 23,

wherein said external control signal includes a manual operation control signal
for said remote controller,

wherein said receiver element receives a plurality of broadcasting waves
transmitted from said broadcasting device,

25 wherein said receiver element comprises:

a memory element for storing a plurality of manual operation control signals included respectively in said plurality of broadcasting waves; and

an extraction element for extracting a manual operation control signal included in a broadcasting wave for a channel designated by said remote controller,

5 wherein said transmission element comprises

an element for transmitting said manual operation control signal extracted by said extraction element to said remote controller, and

wherein a manual operation display item on a control panel of said remote controller is changed based on said manual operation control signal.

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25. A peripheral device capable of communicating with a broadcast receiver, said broadcast receiver receiving broadcasting waves including a combination of broadcast data about a broadcast program and an external control signal for controlling said peripheral device in accordance with contents of said broadcast program, said
15 peripheral device comprising:

a receiver element for receiving said external control signal from said broadcast receiver; and

an operation element for operating in response to said external control signal.

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26. The peripheral device according to claim 25,

said peripheral device being constructed as a remote controller for said broadcast receiver,

wherein said operation element comprises:

a control panel having a display device;

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an element for displaying a manual operation display item on said display

device of said control panel based on said received external control signal and for generating an information signal in response to a manual input from said control panel corresponding to said displayed manual operation display item; and

an element for transmitting said information signal to said broadcast receiver.

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27. The peripheral device according to claim 26, wherein

said control panel comprises a touch panel disposed on said display device for accepting said manual input.

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28. The peripheral device according to claim 27, wherein

said operation element further comprises

a scroll control element for scrolling a portion hidden from view outwardly of a display screen of said display device into said display screen.

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29. The peripheral device according to claim 28, further comprising

a manual operation element disposed in corresponding relation to a display position of said manual operation display item on said display device.

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30. A method of transmitting and receiving a broadcast program, comprising the steps of:

a) transmitting from a broadcasting device a combination of broadcast data about a broadcast program and an external control signal for controlling a peripheral device attendant on a receiver in accordance with contents of said broadcast program in the form of broadcasting waves;

25

b) receiving said broadcasting waves at said receiver to output said broadcast

data to a reproducer and to transmit a command signal dependent on said external control signal to said peripheral device; and

c) controlling said peripheral device by using said command signal.

5 31. The method according to claim 30, wherein

said peripheral device includes at least one of an illumination device, an air conditioner, a sound generator, a toy device relating to a character, and a remote controller for said receiver.

10 32. The method according to claim 31,

wherein said peripheral device includes said remote controller,

wherein said remote controller comprises a control panel having a display device, and

wherein said step c) comprises the steps of:

15 displaying a manual operation display item on said display device of said control panel based on said external control signal;

generating an information signal in response to a manual input from said control panel corresponding to said displayed manual operation display item; and

transmitting said information signal to said receiver.

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33. The method according to claim 31, wherein

said peripheral device includes said toy device, and

said external control signal includes information for operating said toy device in response to an operation of said character appearing in said broadcast program.

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34. The method according to claim 32,
wherein said peripheral device includes said toy device,
wherein said toy device comprises a voice storage, and
wherein said external control signal includes:

- 5 a voice emitted by said character appearing in said broadcast program; and
a storage command signal for instructing said toy device to store said voice in
said voice storage.

35. A method of broadcasting for execution with a broadcasting device,
10 comprising the steps of:

a) obtaining a combined signal including broadcast data about a broadcast
program and an external control signal for controlling a peripheral device attendant on a
receiver in accordance with contents of said broadcast program; and

b) transmitting said combined signal in the form of broadcasting waves from
15 said broadcasting device.

36. The method according to claim 35, wherein

said peripheral device includes at least one of an illumination device, an air
conditioner, a sound generator, a toy device relating to a character, and a remote
20 controller for said receiver.

37. The method according to claim 36,

wherein said peripheral device includes said remote controller,

wherein said external control signal includes information for changing a manual
25 operation display item on a control panel of said remote controller in accordance with the

contents of said broadcast program, and

wherein said step b) comprises the step of

transmitting said combined signal in the form of a broadcasting wave for a predetermined channel.

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38. The method according to claim 36, wherein

said peripheral device includes said toy device, and

said external control signal includes information for operating said toy device in response to an operation of said character appearing in said broadcast program.

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39. The method according to claim 36,

wherein said peripheral device includes said toy device,

wherein said toy device comprises a voice storage, and

wherein said external control signal includes:

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a voice emitted by said character appearing in said broadcast program; and

a storage command signal for instructing said toy device to store said voice in said voice storage.

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40. An apparatus for processing a software including content information representing content and control information for controlling a peripheral device in accordance with said content, said apparatus comprising:

an output element for outputting a first signal dependent upon said content information included in said software to a reproduction device; and

a transmission element for transmitting a second signal dependent upon said control information included in said software to said peripheral device.

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41. The apparatus according to claim 40, wherein

said content information includes music information and/or video information,

and

5 said control information includes information for controlling an illumination device and/or a body-sonic generator provided as said peripheral device in synchronization with progress in reproducing said music information and/or said video information.

10 42. The apparatus according to claim 40, wherein

said content information includes cooking information, and

said control information includes information for controlling a cooking device provided as said peripheral device in accordance with progress in reproducing said cooking information.

15 43. A storage medium having software stored thereon, said software comprising:

content information representing content reproducible by a reproduction device;

and

20 control information for controlling a peripheral device of said reproduction device in synchronization with reproduction of said content.

44. The medium according to claim 43, wherein

said content information includes music information and/or video information;

25 and

48. The software according to claim 46, wherein
said content information includes cooking information, and
said control information includes information for controlling a cooking device
provided as said peripheral device in accordance with progress in reproducing said
5 cooking information.

49. A digital device for use in a space in which a content reproduction device
and a home electronic device are provided, said digital device comprising:
a receiver for receiving a digital signal;
10 an element for extracting a content signal from said digital signal to output said
content signal to said content reproduction device; and
an element for extracting a control signal for controlling said home electronic
device from said digital signal to output said control signal to said home electronic
device,
15 wherein said home electronic device operates in synchronization with
reproduction of said content under control of said control signal.

50. The digital device according to claim 49, wherein
said digital signal is a broadcast signal, and
20 said home electronic device is operable in any one of:
a first operating mode in which said home electronic device operates
independently of said broadcast signal; and
a second operating mode in which said home electronic device operates as a
peripheral effector device for said content reproduction device in accordance with said
25 control signal.

51. A remote controller capable of controlling an audio- and/or visual-electronic device, said remote controller comprising:

a variable display;

5 a receiver for receiving a control signal synchronized with reproduction of content in said audio- and/or visual-electronic device; and

a controller for changing a display item produced on said variable display in response to said control signal.